

link: <https://github.com/GyorgyFerenc/FLCD>

The Symbol table consists of two hash tables, one for identifiers and one for constants.

Hash_Table:

- It is a dynamically growing hash table for hashing strings.
- After each growth the previous indexes for the inserted strings remain VALID.

Functions:

static Hash_Table create(usize capacity)

- It creates a hash table with the specified initial capacity.

void destroy()

- It destroys the hash table.

usize add(std::string str)

- It adds the string into the hash table.

It uses == operator to check if the same string is already added.

It holds them uniquely there will be no duplicates

It returns the index where the string is put, for a fast retrieval.

Grows the table if needed.

Growing does NOT invalidate the indexes previously returned.

std::string get(usize index)

- It returns the string contained at the index.

The index is remain VALID even if the table grows.

Scanner:

Fields:

std::string source

- The source of where tokens will be scanned from.

PIF pif

- The tokens that are scanned from source.

Symbol_Table table

- The symbol table that will be filled up.

Functions:

static Scanner create(std::string source)

- It creates a scanner over the source provided.

void all()

- It scans the tokens from source and puts it into the field pif.

It fills up the the symbol table as well.

RegExes:

integer: "0|[-]?[1-9][0-9]*"

- It matches sequence one or sequence two. The first is the character 0.

The second starts with + or - optionally than a digit except 0 and after that a digit any number of times.

mes.

identifier: "[A-Za-z_][A-Za-z_0-9]*"

- It matches any capital or small letter or underscore.

After that it matches any number of capital or small letter or underscore or digits.

PIF:

is std::vector<Token>.

Token:

Fields:

Kind kind

- The kind of the token.

std::string str;

- The str representation of the token.

union

identifier

- If the kind is Identifier then the token has this field.

constant

- If the kind is Constant then the token has this field.

Symbol_Table:

Hash_Table identifiers;

- The identifiers scanned.

Hash_Table constants;

- The constants scanned.